

What is claimed is:

1. A crankshaft for use as a component of an internal combustion engine and for converting reciprocating motion of pistons in the internal combustion engine to rotary motion, said crankshaft comprising:

a plurality of interconnected crank webs;

wherein one of said crank webs forms a primary drive gear, which is a helical gear; and wherein another one of said crank webs comprises a split crank web which is connected to the primary drive gear via a crankpin.

2. A crankshaft for an internal combustion engine according to Claim 1, wherein the helical gear is integrally formed with the crank web by grinding helical teeth along the periphery of the crank web.

3. A crankshaft for an internal combustion engine according to Claim 1, wherein the split crank web comprises a main crank web portion integrally formed with the crankpin, and a supplemental crank web which is removable from the main crank web.

4. The crankshaft of claim 3, wherein the diameter of the main crank web portion is larger than the diameter of the primary drive gear at the base of the teeth thereof.

5. A crankshaft for use as a component of an internal combustion engine, said crankshaft comprising a crankshaft body comprising:

a gear formed on a crank web located at one side of a crankpin;

a first balance weight mounting portion formed on a crank web located at the other side of the crankpin;

said crankshaft further comprising a first balance weight adapted to be mounted to the first balance weight mounting portion of the crankshaft body;

wherein the crankshaft body is formed with a second balance weight mounting portion separate from the first balance weight mounting portion, and wherein said crankshaft also comprises a second balance weight for attachment to the second balance weight mounting portion.

6. A crankshaft according to claim 5, wherein the first balance weight has a first mass, and wherein the second balance weight has a mass substantially equal to the first mass.

7. A crankshaft according to claim 5, wherein the first balance weight mounting portion is provided on the outside of said crankpin which is located at one end out of a plurality of crankpins, and wherein the second balance weight mounting portion is provided on the outside of a crankpin located at the other end of said plurality of crankpins.

8. A crankshaft according to claim 5, wherein the gear is a helical gear.
9. A crankshaft for use as a component of an internal combustion engine, said crankshaft comprising a crankshaft body which comprises:

a plurality of journals situated along a longitudinal axis of said crankshaft;

a plurality of crank pins displaced from said longitudinal axis;

a plurality of crank webs interconnecting said crank pins with said journals;

wherein one of said crank webs is configured as a helical gear with teeth formed externally thereon;

and further wherein one of said crank webs is formed in two parts including a first balance weight mounting portion and a first supplemental balance weight which is removably attached to the first balance weight mounting portion.

10. The crankshaft of claim 9, wherein the first supplemental balance weight includes a flange which extends away from an edge portion thereof.

11. The crankshaft of claim 9, wherein another of said crank webs is formed in two parts including a second balance weight mounting portion and a second supplemental balance weight

which is removably attached to the second balance weight mounting portion.

12. The crankshaft of claim 9, wherein said two-part crank web is disposed at a first end of said crankshaft.

13. The crankshaft of claim 9, wherein said supplemental balance weight is attached to the balance weight mounting portion using a plurality of fasteners.

14. The crankshaft of claim 9, wherein the supplemental balance weight has a cylindrical hole formed therein to receive a portion of the crankshaft body.

15. The crankshaft of claim 9, wherein the supplemental balance weight has a plurality of mounting holes formed therein to receive fasteners, and wherein the mounting holes include conically tapered portions to receive fastener heads therein.